Agricultural Lands of Importance to the State of Hawaii

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Specialist in Agricultural Economics

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UNIQUE AGRICULTURAL LAND—Land that has the special combination of soil quality, location, growing season, moisture supply, and is used to produce sustained high quality and of high yields of a specific crop when treated and managed according to modern farming methods.

OTHER IMPORTANT AGRICULTURAL LAND—Land other than Prime or Unique Agricultural Land that is also of statewide or local importance for agricultural use.

EXISTING URBAN DEVELOPMENT—Land which has been developed for urban type use.

U. S. GOVERNMENT—Land which is currently under the jurisdiction of the U. S. Government.

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In the Spring of 1975, the Soil Conservation Service of the U.S. Department of Agriculture initiated a nationwide inventory of important farmlands. At first, only prime and unique farmlands were defined. Later, other farmlands of statewide and local importance were recognized and delineated.

In order to insure relevance of the inventory to Hawaii, the State became an early participant in this valuable program.

Under the leadership of the State Department of Agriculture, the classification system and criteria for classification were developed for Hawaii by an ad hoc committee comprised of representatives from the Soil Conservation Service, the University of Hawaii College of Tropical Agriculture and Human Resources, the State Rural Development Committee, and the State of Hawaii Departments of Agriculture, Planning and Economic Development, and Land and Natural Resources. (Members of this committee are listed on the inside face of the back cover of this report.)

The classification system and criteria developed by the committee were adopted by the Board of Agriculture, State of Hawaii, on January 28, 1977. This classification delineates those lands of the State which are of agricultural importance and, within this delineation, categorizes agricultural lands into three classes according to specific criteria.

The three classes of agriculturally important lands were established for the State of Hawaii with the intent of facilitating the Soil Conservation Service's effort to inventory prime farmlands nationally and adapting the classification to the types of agricultural activity in Hawaii. These classes and their corresponding SCS national equivalents are:

Hawaii Classification System	SCS Classification System
Prime Agricultural Land	Prime Farmland
Unique Agricultural Land	Unique Farmland
Other Important Agricultural Land	Additional Farmland of Statewide and Local Importance

Land considered for classification may or may not currently be in agricultural use.

Lands not considered for classification include:

1. Developed urban lands greater than 10 acres in area.
2. Natural or artificial (man-made) enclosed bodies of water of more than 10 acres.
3. Forest reserves.
4. Public use lands such as parks and historic sites.
5. Lands with slopes in excess of 35 percent.
6. Military installations, except undeveloped areas over 10 acres.

The criteria for classification of PRIME AGRICULTURAL LAND in Hawaii are identical to the criteria established by the Soil Conservation Service for national application, namely the characteristics of the soil. The criteria for UNIQUE AGRICULTURAL LAND and OTHER IMPORTANT AGRICULTURAL LAND were established cooperatively by the Soil Conservation Service in Hawaii, the College of Tropical Agriculture and Human Resources, and the State Department of Agriculture.

PRIME AGRICULTURAL LAND is land best suited for the production of food, feed, forage, and fiber crops. This class of land has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed (including water management) according to modern farming methods. Prime agricultural land gives the highest yields with the lowest inputs of energy or money and with the least damage to the environment.

PRIME AGRICULTURAL LAND meets the following criteria:

1. The soils have a dependable and adequate moisture supply and good water storage capacity.
2. The soils have a mean annual temperature and growing season suitable for growing the prevailing crops.
3. The soils are neither too acid nor too alkaline for vigorous plant growth.
4. The water table is either lacking or so deep that it does not adversely affect plant growth.
5. The soils are not salty or otherwise limiting in the root zone.
6. The soils are not flooded frequently during the growing season.
7. The soils do not have a serious erosion hazard.
8. The soils transmit water readily and without drainage problems.

9. The soils are not so stony in the surface layer as to cause difficulty in cultivating with large equipment.
10. The soils have stability characteristics which permit the use of large equipment.

UNIQUE AGRICULTURAL LAND is land other than PRIME AGRICULTURAL LAND that is currently used for the production of specific high-value food crops. This land has the special combination of soil quality, growing season, temperature, humidity, sunlight, air drainage, elevation, aspect, moisture supply, or other conditions, such as nearness to market, that favor the production of a special crop of high quality and/or high yield when the land is treated and managed according to modern farming methods. In Hawaii, examples of such crops are coffee, taro, rice, watercress, and non-irrigated pineapple (Molokai).

Land that qualifies as PRIME AGRICULTURAL LAND and is used for a special or specific high-value crop is classified as PRIME AGRICULTURAL LAND rather than as UNIQUE AGRICULTURAL LAND.

OTHER IMPORTANT AGRICULTURAL LAND is land of statewide or local importance for the production of food, feed, fiber, and forage crops and not PRIME or UNIQUE AGRICULTURAL LAND. These lands are important to agriculture yet they exhibit properties, such as seasonal wetness, erodibility, limited rooting zone, slope, flooding, or droughtiness that exclude them from the PRIME or UNIQUE categories. Two examples are lands which do not have an adequate moisture supply to qualify as PRIME and lands which have characteristics and properties similar to UNIQUE except the land is not currently in use for the production of a "unique" crop. These lands can be farmed satisfactorily by applying greater inputs of fertilizer and other soil amendments, drainage improvements, erosion control practices, and flood protection, and can produce fair to good crop yields when managed properly.

Other criteria may qualify lands as OTHER IMPORTANT AGRICULTURAL LAND:

1. Lands with slopes less than 20 percent, with moisture supply adequate for commonly grown crop, in crop production or with cropping potential, and not clasified as PRIME or UNIQUE.

2. Lands with slopes less than 35 percent, presently used for grazing or with grazing potential, with sufficient available water capacity in the soils to produce fair to good yields of adapted forage, with less than 10 percent rock outcrops and coarse fragments in the surface layer, and not classified as PRIME or UNIQUE.
3. Thin organic soils underlain by aa lava with favorable moisture and temperature conditions for cropping.

This classification of agriculturally important lands *does not in itself constitute a designation of any area to a specific land use*. The classification should, however, provide decision makers with an awareness of the long-term implications of various land use options for agricultural production in Hawaii. New knowledge and changes in land use will necessitate the periodic review and revision of the classification system and lands identified in the various classes.

The three major categories of important agricultural lands have been plotted on standard U.S. Geological Survey quadrangle maps. These maps have a scale of 1 to 24,000 and cover the entire State of Hawaii. They are available for observation and purchase at the District Offices of the Soil Conservation Service on the Neighbor Islands and at the State of Hawaii Department of Agriculture and main office of the Soil Conservation Service on the Island of Oahu. Figure 1 shows a portion of the Kaneohe Quadrangle, Island of Oahu, which includes prime, unique, and other important agricultural lands.

Data published by the State Department of Agriculture show about one million acres of agricultural lands of importance to the State of Hawaii. Of this acreage, about one third (304,310 acres) is classified as PRIME.

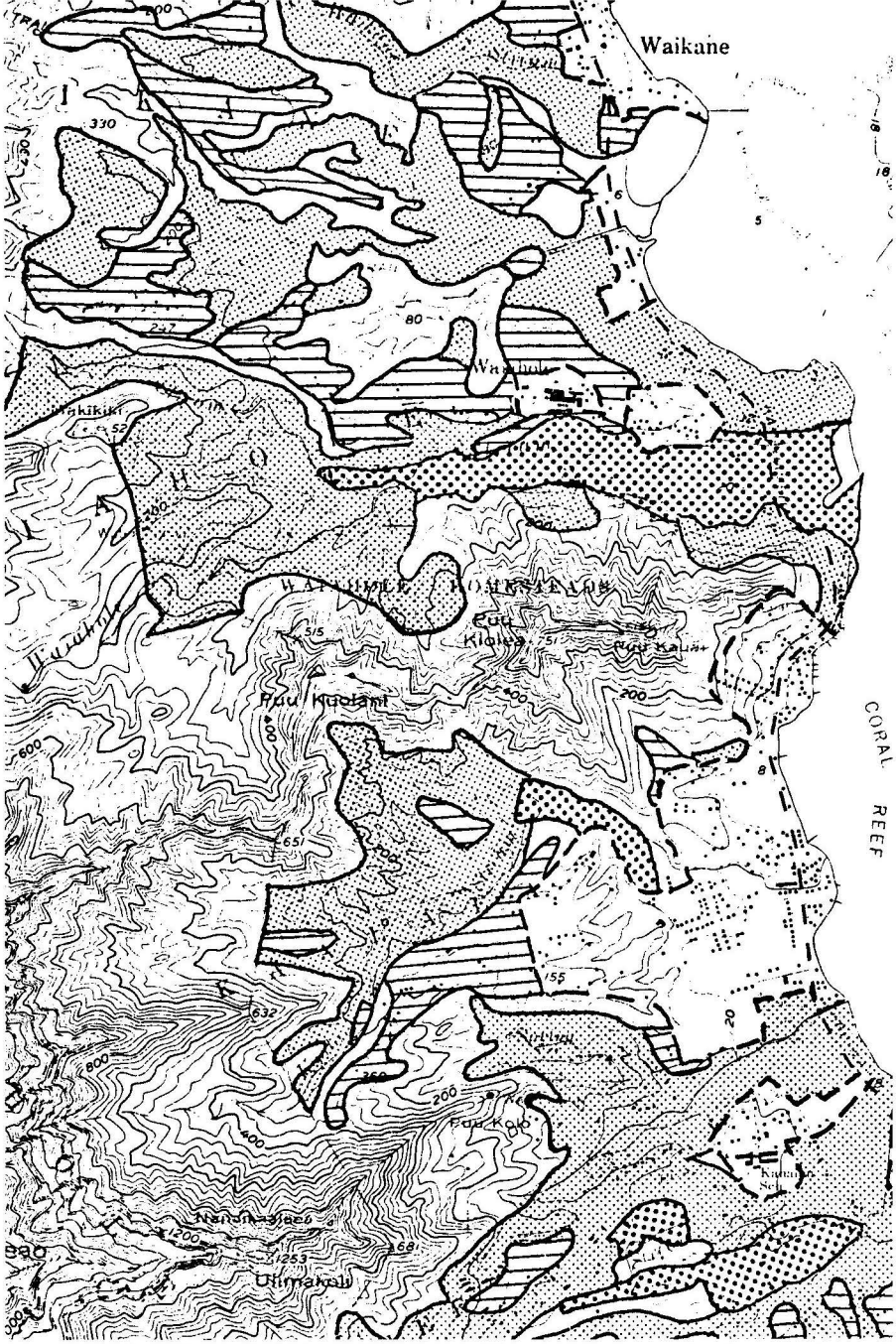
Oahu, with a total land area of 385,300 acres, has about 95,000 acres of important agricultural lands. PRIME agricultural lands total about 56,000 acres. During the period 1974–1977, 1,716 acres of PRIME land were shifted from agriculture to urban use on Oahu.

These and other important facts about Hawaii's important agriculture lands are presented in the following tabulations and graphics.

LEGEND:

PRIME AGRICULTURAL LAND—Land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farming methods.

UNIQUE AGRICULTURAL LAND—Land that has the special combination of soil quality, location, growing season, moisture supply, and is used to produce sustained



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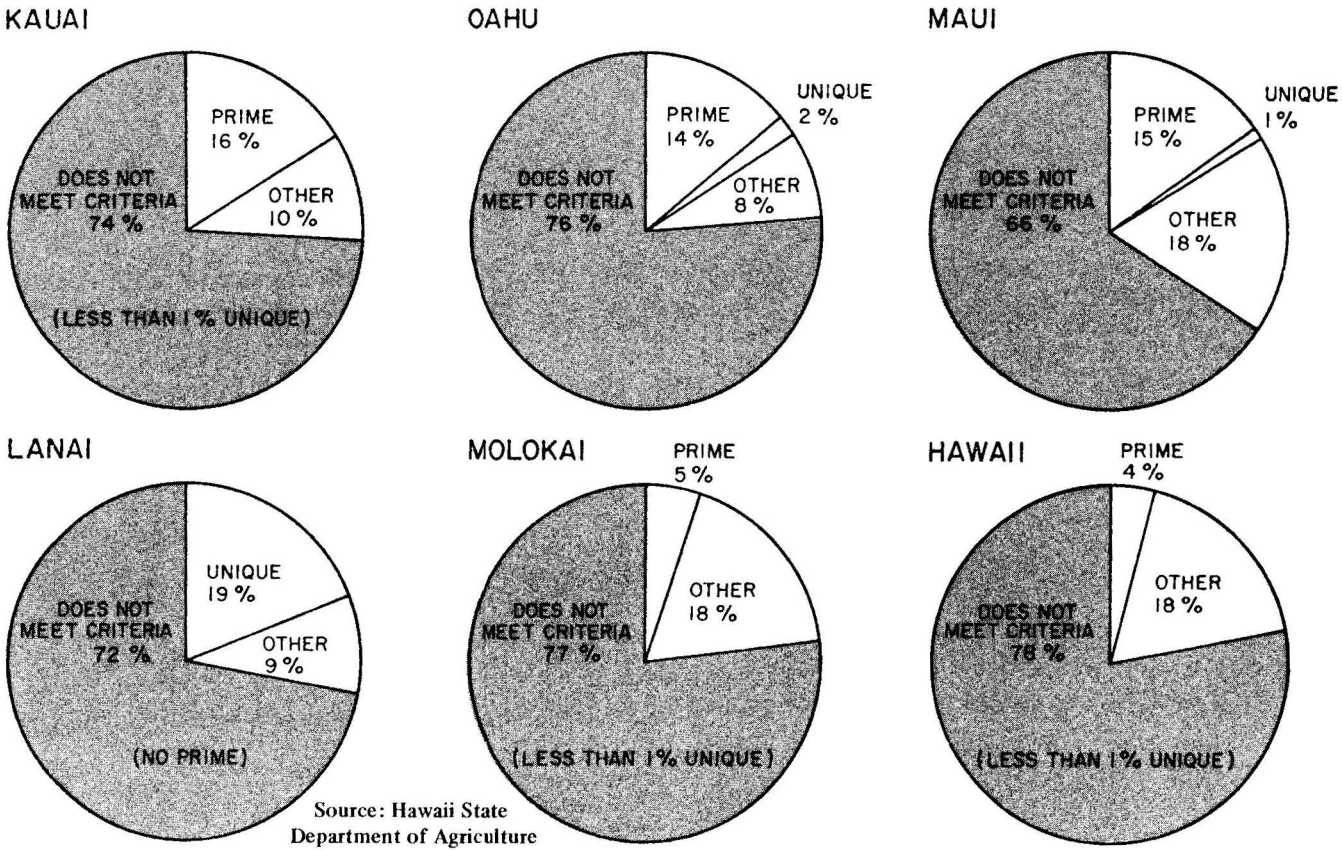
Acreage/Island
Agricultural Lands of Importance to the State of Hawaii

	PRIME	UNIQUE	OTHER	TOTAL	LAND AREA
KAUAI					
acres	54,916	388	36,673	91,977	353,900
% of island	16	–	10	26	
% of state	18	1	6	9	
OAHU					
acres	55,563	9,006	29,990	94,559	385,300
% of island	14	2	8	24	
% of state	18	29	5	10	
MAUI					
acres	70,714	2,519	85,831	159,064	465,800
% of island	15	1	18	34	
% of state	23	8	13	16	
LANAI					
acres	–	16,969	8,149	25,118	90,500
% of island	–	19	9	28	
% of state	–	54	1	3	
MOLOKAI					
acres	7,726	763	29,603	38,092	165,800
% of island	5	–	18	23	
% of state	3	2	5	4	
HAWAII					
acres	115,391	1,675	452,298	569,364	2,573,400
% of island	4	–	18	22	
% of state	38	5	70	58	
STATE OF HAWAII					
acres	304,310	31,320	642,544	978,174	4,034,700
% of state	8	1	16	24	

Compiled January, 1978.

Source: Hawaii State Department of Agriculture

PERCENT OF IMPORTANT AGRICULTURAL LAND PER ISLAND—1978



Source: Hawaii State Department of Agriculture

LAND USE BOUNDARY CHANGES: OAHU

Acreage Converted	1974 Acres	1974 (%)	1975 Acres	1975 (%)	1976 Acres	1976 (%)	1977 Acres	1977 (%)	Total 1974–1977 Acres	Total 1974–1977 (%)
Agriculture to Urban:										
Total	1758	(100.0)	–		72.5	(100.0)	1230	(100.0)	3060.5	(100.0)
Prime	1226	(69.7)	–		47.5	(65.5)	443	(36.0)	1716.5	(56.1)
Unique		–	–			–	179	(14.6)	179.0	(5.8)
Other	427	(24.3)	–			–	136	(11.1)	563.0	(18.4)
Total Imp. Lands	1653	(94.0)	–		47.5	(65.5)	758	(61.6)	2458.5	(80.3)
Urban to Agriculture:										
Total	350	(100.0)	–			–		–	350.0	(100.0)
Prime	7	(2.0)	–			–		–	7.0	(2.0)
Unique		–	–			–		–		–
Other	9	(2.6)	–			–		–	9.0	(2.6)
Total Imp. Lands	16	(4.6)	–			–		–	16.0	(4.6)
Conservation to Agriculture:										
Total	2569	(100.0)	–			–		–	2569.0	(100.0)
Prime		–	–			–		–		–
Unique		–	–			–		–		–
Other	410	(16.0)	–			–		–	410.0	(16.0)
Total Imp. Lands	410	(16.0)	–			–		–	410.0	(16.0)

Source: Hawaii State Department of Agriculture

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